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LAMPIRAN A

SPESIFIKASI AKSESORIS & PELENGKAP UNIT PENGOLAHAN

1. Intake Pompa



GRUNDFOS		Company name:														
		Created by:														
		Phone:														
		Date: 03/06/2023														
Qty.	Description															
1	 <p>Seal faces:</p> <ul style="list-style-type: none"> • Rotating seal ring material: silicon carbide (SiC) • Stationary seal material: silicon carbide (SiC) <p>This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.</p> <p>Secondary seal material: EPDM (ethylene-propylene rubber)</p> <p>EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils.</p> <p>The shaft is made of stainless steel and has a diameter of 16 mm where the coupling is mounted.</p> <p>The pump uses a standard coupling between the pump and motor shaft.</p>  <p>Motor</p> <p>The motor is a totally enclosed, fan-cooled motor with principal dimensions to IEC and DIN standards. Electrical tolerances comply with IEC 60034.</p> <p>The motor efficiency is classified as IE3 in accordance with IEC 60034-30-2.</p> <p>The motor requires no external motor protection. The motor control unit incorporates protection against slow- and quick-rising temperatures, e.g. constant overload and stalled conditions.</p> <p>The terminal box holds terminals for these connections:</p> <ul style="list-style-type: none"> • one dedicated digital input • two analog inputs: 0-10 V, 0-5 V, 0-10 V, 0-5 - 3.5 V • 5 V voltage supply to potentiometer and sensor • one configurable digital input or open-collector output • Grundfos Digital Sensor input and output • 24 V voltage supply for sensors • two signal-relay outputs (potential-free contacts) • GENEbus connection • interface for Grundfos CMA feedback module. <p>Further product details</p> <p>Cast-iron parts have an epoxy-based coating made in a cathodic electro-deposition (CED) process. CED is a high-quality dip painting process where an electrical field around the products ensures deposition of paint particles as a thin, well-controlled layer on the surface.</p> <p>Technical data</p> <p>Controls:</p> <table border="0"> <tr> <td>Frequency converter:</td> <td>Built-in</td> </tr> <tr> <td>Pressure sensor:</td> <td>N</td> </tr> </table> <p>Liquid:</p> <table border="0"> <tr> <td>Pumped liquid:</td> <td>Water</td> </tr> <tr> <td>Liquid temperature range:</td> <td>-25 ... 120 °C</td> </tr> <tr> <td>Selected liquid temperature:</td> <td>20 °C</td> </tr> <tr> <td>Density:</td> <td>998.2 kg/m³</td> </tr> <tr> <td>Kinematic viscosity:</td> <td>1 mm²/s</td> </tr> </table>	Frequency converter:	Built-in	Pressure sensor:	N	Pumped liquid:	Water	Liquid temperature range:	-25 ... 120 °C	Selected liquid temperature:	20 °C	Density:	998.2 kg/m ³	Kinematic viscosity:	1 mm ² /s	
Frequency converter:	Built-in															
Pressure sensor:	N															
Pumped liquid:	Water															
Liquid temperature range:	-25 ... 120 °C															
Selected liquid temperature:	20 °C															
Density:	998.2 kg/m ³															
Kinematic viscosity:	1 mm ² /s															

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2. Koagulasi Dosing Pump



Company name:
Created by:
Phone:
Date: 03/05/2023

GRUNDFOS

City: Description

1 DMR 140-200 B-55/1C-4-EJ6680EMAS



Product No.: 65931432
Note: Product picture may differ from actual product

The pump of the DMR series is a versatile positive displacement diaphragm dosing pump.

The diaphragm is actuated hydraulically via a precise gear-actuated-lever-system to a high efficiency AC motor. The dosing capacity is adjusted by varying the stroke length of the stroke adjustment-lever in the ratio 1 to 1.5.

The range is highly versatile. It covers a wide flow range and offers a variety of dosing head sizes, materials and accessories. Customers worldwide have enjoyed years of trouble-free operation from their DMR pumps.

The Grundfos DMR range is a series of extremely strong, robust pumps for applications requiring reliable dosing capacity, such as process engineering.

The DMR 200 models have been designed especially for high-pressure applications from 90 up to 200 bar.

The pump is composed of:

- Casting/steel
- PTFE diaphragm
- Ball valves

Other features:

- Robust industrial pump with aluminium or cast-iron enclosure
- Easy to install and operate design
- Long life PTFE diaphragm
- Optimum capacity and stroke frequency graduation
- Dosing flow variation ±1% (FS), linearity ±1% (FS)

Applies only to pumps with: ATEX certification

The dosing pump DMR 200 is certified according to the ATEX guideline RI 6696C for non-electrical operating liquids.

The motor versions EX e and EX d certified by Grundfos are certified by the manufacturers according to ATEX guidelines for electrical operating liquids. The motor type plate is labelled according to ATEX.

The ATEX approved DMR pumps are available in a variety of configurations - some can be used for dosing non-flammable liquids.

Electronics features

Applies only to pumps with control variant: AR

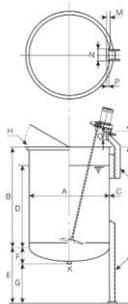
Other Prof. microprocessor electronics, stand attached to motor:

- Stroke frequency adjustable from 1 (minimum) to maximum stroke frequency
- Pulse control with multiplier and divider
- Analogue signal control 0-20 mA
- Level control with input for two level signals
- Pulse, analogue and remote control input
- Analogue output
- Alarm relay output
- Stroke output
- Input for dosing controller and diaphragm receding sensor

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Tangki

Specification of optional tanks



Model	Available capacity	Maximum capacity	Tank dimension (mm)													Weight (kg)
			f	g	A	B	C	D	E	F	G	H/SUS	J/S	K	L/H	
ZTF-100	100	130	500	600	3	450	450	134	316	125x25x3	3-150-50x6	1/2 B Socket	43	3		
ZTF-150	150	182	550	700	3	562	450	144	306	L30x30x3	3-150-50x6	1/2 B Socket	51	4		
ZTF-200	200	260	650	700	3	520	450	163	287	L30x30x3	3-150-50x6	1/2 B Socket	60	5.5		
ZTF-300	300	361	700	850	3	692	500	173	327	L40x40x3	4-150-50x6	1/2 B Socket	77	6.5		
ZTF-400	400	478	800	850	3	695	500	192	328	L40x40x3	4-150-50x6	1/2 B Socket	86	8		
ZTF-500	500	600	850	850	3	770	500	202	298	L40x40x3	4-150-50x6	1/2 B Socket	108	9		
ZTF-800	800	963	1000	1100	3	900	550	240	310	L40x40x5	4-1100-50x5	1B Socket	155	12		
ZTF-1000	1000	1177	1100	1100	3	910	550	260	290	L40x40x5	4-1100-50x5	1B Socket	170	19		
ZTF-1500	1500	1721	1250	1245	4	1065	600	290	310	L40x40x5	4-1100-50x5	1B Socket	260	24		
ZTF-2000	2000	2275	1300	1550	4	1345	600	298	302	L50x50x6	4-125x65x6	1B Socket	335	26		
ZTF-2000S	2000	2273	1400	1300	4	1125	600	318	282	L50x50x6	4-125x65x6	1B Socket	325	30		
ZTF-2500	2500	3073	1500	1550	4	1230	700	370	330	L50x50x6	4-125x65x6	1B JIS 10KF	400	34		
ZTF-3000	3000	3603	1500	1850	4	1510	700	370	330	L50x50x6	4-125x65x6	1B JIS 10KF	448	34		
ZTF-3000S	3000	3521	1600	1550	4	1290	750	400	350	L50x50x6	4-125x65x6	1B JIS 10KF	422	38		
ZTF-3500	3500	4125	1600	1850	4	1540	700	400	300	L50x50x6	4-1150x75x9	1B JIS 10KF	524	38		
ZTF-3500S	3500	4004	1700	1550	4	1330	800	430	370	L50x50x6	4-1150x75x9	1B JIS 10KF	514	43		
ZTF-4000	4000	4685	1700	1850	4	1550	800	430	370	L65x65x8	4-1150x75x9	1 1/2 B JIS 10KF	575	45		
ZTF-4000S	4000	4520	1800	1500	4	1345	800	450	350	L65x65x8	4-1150x75x9	1 1/2 B JIS 10KF	550	50		
ZTF-4500	4500	5285	1800	1850	5	1542	800	450	350	L65x65x6	4-200x90x8	1 1/2 B JIS 10KF	750	50		
ZTF-5000	5000	5924	1900	1850	5	1530	900	500	400	L65x65x6	4-200x90x8	2B JIS 10KF	800	56		

*The lids have a thickness of 1.5t for A dimension up to 1000, and 2.0t for A dimension above that.
*Jacket type is also available.

Pengaduk

Standard specification

Model	Frame number	Motor			Impeller				Shaft length (mm)
		Power (kW)	Number of poles (P)	Phase and voltage (V)	Frequency (Hz)	Revolution (min ⁻¹)	Diameter (mm)	Stage	
A720-0.065A	1	0.065	4	Single-phase 100	50	300	150	1	600
60					360				
A720-0.1A	1	0.1	4	Single-phase 100	50	300	220	1	800
60					360				
A720-0.1B	1	0.1	4	Three-phase 200	50	300	220	1	800
60					360				
A720-0.2A	2	0.2	4	Single-phase 100	50	300	270	1	1000
60					360				
A720-0.2B	2	0.2	4	Three-phase 200	50	300	270	1	1000
60					360				
A720-0.4B	3	0.4	4	Three-phase 200	50	300	310	1	1250
A725-0.4B	4	0.4	6	Three-phase 200	50	300	350	1	1500
60					240				
A720-0.75B	4	0.75	4	Three-phase 200	50	300	350	1	1500
60					360				
A725-0.75B	5	0.75	6	Three-phase 200	50	200	400	1	2000
60					240				
A720-1.5B	5	1.5	4	Three-phase 200	50	300	400	1	2000
60					360				

* The standard materials for the shaft and the impeller are SUS304 or SUS316.
* The A720 and A725 are the replacement for the A520.

3. Desinfeksi Dosing Pump



GRUNDFOS		Company name: Created by: Phone: Date: 03/05/2023
Qty:	Description	
1	<p>Label: L48-200 B-55/VC-4-612804X2MAG</p>  <p>Product No.: 6061542</p> <p>Note: Product picture may differ from actual product.</p> <p>The pump of the DMR series is a versatile positive displacement diaphragm dosing pump.</p> <p>The diaphragm is actuated hydraulically via a precise gear-actuated-lever-system to a high-efficiency AC motor. The dosing quantity is adjusted by varying the stroke length of the stroke adjustment bush on the side 1/8" TS.</p> <p>The range is highly versatile. It covers a wide flow range and offers a variety of dosing head sizes, materials and accessories. Customers worldwide have reported years of trouble-free operation from their DMR pumps.</p> <p>The Grundfos DMR range is a series of extremely strong, robust pumps for applications requiring reliable dosing capability, such as process engineering.</p> <p>The DMR 20x models have been designed especially for high-pressure applications from 30 up to 200 bar.</p> <p>The liquid end is composed of:</p> <ul style="list-style-type: none"> - Dosing head - PTFE diaphragm - Ball valves <p>Other features:</p> <ul style="list-style-type: none"> - Robust industrial pump with aluminium or cast-iron end-cases - Easy to install and operate design - Long life PTFE diaphragm - Optimum capacity and stroke frequency graduation - Dosing flow variable 0% (P0), nearly 0% (P0.5) <p>Applies only to pumps with ATEX certification</p> <p>The dosing pump DMR 20x is certified according to the ATEX guideline IEC 60079 for non-electrical operating systems.</p> <p>The motor versions IEx and IEx-2 are certified by Grundfos and the manufacturer according to ATEX guidelines for electrical operating systems. The motor type data is available according to ATEX.</p> <p>The ATEX approved DMR pumps are available in a variety of configurations - some can be used for dosing combustible fluids.</p> <p>Electronics features</p> <p>Applies only to pumps with control variant: AP</p> <p>Electro-Pneumatic electronics, which is attached to motor:</p> <ul style="list-style-type: none"> - Stroke frequency adjustable from 1 up to 100% in maximum stroke frequency - Pulse control with multiplier and delay - Analogue signal control 0-20 mA - Level control with input for level sensor signals - Pulse, analogue and remote on/off input - Analogue output - Alarm relay output - Stroke output <p>Input for dosing controller and diaphragm monitoring sensor</p>	

4. Sludge Drying Bed Pompa



LAMPIRAN B
GAMBAR DAN POTONGAN IPAM

Gambar denah dan potongan dari masing-masing unit pengolahan air bersih Sungai Sedati yang direncanakan adalah sebagai berikut:

1. Denah layout Instalasi Pengolahan Air Minum
2. Profil hidrolis Instalasi Pengolahan Air Minum
3. Denah dan potongan unit Intake & Screen
4. Denah dan potongan unit Prasedimentasi
5. Denah dan potongan unit Koagulasi
6. Denah dan potongan unit Flokulasi
7. Denah dan potongan unit Sedimentasi
8. Denah dan potongan unit Filtrasi
9. Denah dan potongan unit Desinfeksi dan Reservoir
10. Denah dan potongan unit Sludge Drying Bed